

Independent Review

Grants Management System Project

For the

State of Vermont
Agency of Education



**Submitted to the
State of Vermont, Agency of Digital Services
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FINAL

Prepared by:

Charlie Leadbetter, PMP, Principal
Brad Hanscom, Project Manager
Berry, Dunn, McNeil & Parker, LLC (BerryDunn)
100 Middle Street, PO Box 1100
Portland, Maine 04104-1100
207-541-2249, cleadbetter@berrydunn.com
207-541-2264, bhanscom@berrydunn.com

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1.0 Executive Summary

Provide an introduction that includes a brief overview of the technology project and selected vendor(s) as well as any significant findings or conclusions. Ensure any significant findings or conclusions are supported by data in the report.

1.1 Introduction

This Independent Review (IR) was undertaken to evaluate the viability of, and provide a recommendation to proceed or not proceed with respect to, a Grants Management Project for the State of Vermont's (State's) Agency of Digital Services (ADS) and Agency of Education (AOE). For all Information Technology (IT) activities over \$1,000,000, Vermont statute (or at the discretion of the Chief Information Officer (CIO)) requires an IR by the Office of the CIO before the project can begin. This IR began on June 19, 2017, and is projected to conclude by August 12, 2017.

The subject of review is the planned software and personal services acquisition of a Grants Management System (GMS). The State issued a request for proposal (RFP) for a GMS. In scope are the software, implementation services, training, and ongoing support of a GMS. The RFP included specific requirements that the GMS must meet:

1. Ability for applicant and AOE to download /extract all data on any page and attachment to a comma-separated value (CSV) file for external analysis
2. Improved formatting capabilities on fields
3. Ability to easily see/compare what has changed in an application and award, and when
4. Ability for applicant to understand status of AOE review process
5. Ability for applicant to import data into lists
6. Improved audit, applicant, and AOE access to all versions of all applications and signed awards
7. Ability to notify applicant of pending due date and not allow late submission
8. Improved e-sign process that does not have AOE generate and assign personal identification numbers (PINs) but ensures that authorized representative is the e-signer
9. Ability for applicant to turn off/on notifications by program as they wish

The RFP was issued on February 10, 2017, and a preferred vendor and solution was selected after a competitive bid process in early May 2017.

1.2 Cost Summary

The following table is a summary of GMS costs as evaluated during the course of this IR.

IT Activity Life Cycle:	10 Years
Total Life Cycle Costs:	\$3,188,626.77
Total Implementation Costs:	\$552,679.77
New Annual Operating Costs:	\$108,000 in Year 1 \$280,883.00 in Years 2 – 10
Current Annual Operating Costs:	\$328,949.00
Difference Between Current and New Operating Costs:	\$-220,949 in Year 1 \$-48,066 in Years 2-10
Funding Source(s) and Percentage Breakdown if Multiple Sources:	
Implementation: Federal Funds (0% of the Total Life Cycle Costs)	\$0.00
Implementation: State Special Funds (16% of the Total Life Cycle Costs)	\$510,180.28
Operations: State General Fund (21% the Total Life Cycle Costs)	\$669,611.62
Operations: State Special Funds (20% the Total Life Cycle Costs)	\$637,725.35
Operations: Federal Funds (43% of the Total Life Cycle Costs)	\$1,371,109.51

1.3 Disposition of IR Deliverables

Deliverable	Highlights From the Review <i>Include explanations of any significant concerns</i>
Acquisition Cost Assessment	Acquisition of the new solution will cost \$552,679.77.
Technology Architecture Review	Technology is based on a Microsoft foundation. Different parties within the State have more than one definition of “enterprise architecture”.
Implementation Plan Assessment	The implementation plan is about six months and does not seem unreasonable. Six months falls between the shortest time implemented by the preferred vendor and the longest.
Cost Analysis and Model for Benefit Analysis	The solution will cost the State less over 10 years than the current solution is projected to cost over the same period, not controlling for factors such as supporting

	staff salary raises, change in staff, etc. The reduction in cost over 10 years is a key tangible benefit.
Impact Analysis on Net Operating Costs	The net change to operating costs is a decrease.

1.4 Identified High Impact &/or High Likelihood of Occurrence Risks¹

Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
<p>There is a risk of project delay and unfulfilled obligations by the State due to an unfulfilled State PM position.</p>	<p>AOE fully expects to have this position filled by the implementation start date, (anticipated to be 9/1/2017). AOE's contingency plan is to have Frank Perricone assume that role until the position is filled, as Frank has done in an unofficial capacity since the previous State PM retired. During his 23 years of State service, Frank has served in this role on several other projects of similar or larger scope.</p>	<p>The response is sufficient. We believe the Planned Risk Strategy should be "mitigate" rather than "accept", but the mitigation is sound.</p>
<p>There is a risk to project scope, schedule, and cost if the State and AOE do not agree upon a scope of data migration.</p>	<p>During planning and RFP preparation, AOE wished to consider the possibility of migrating all Grantium data to the new system, and to invite vendors to offer their approaches, in case this opened up unexpected possibilities. Fortunately, AOE does not need to migrate grants in process. While all of the vendor proposals offered willingness to attempt a migration of grants in progress, none made AOE reconsider this assessment of the best way forward.</p>	<p>The response is adequate. We note that if AOE/ADS feels migration of historical data from Grantium is still an option in the future, then funds should be set aside in a contingency for this possibility.</p>
<p>There is a risk to project scope, schedule, and cost around lack of defined deliverables and payment milestones.</p>	<p>The RFP did in fact request a set of deliverables, namely a detailed set of functional and non-functional requirements to</p>	<p>We do not agree that the RFP included a full set of deliverables; only minimum project management</p>

¹ Responses have been abbreviated in this section of the report.

Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
	<p>be delivered through this project. Further, the vendor did define a set of deliverables in their technical proposal, which aligns with the functional and non-functional requirements requested in the RFP.</p> <p>Additionally, as noted in the Risk Description above, the vendor did provide a detailed Microsoft Project plan, listing tasks and schedules, but which did not associate where in that plan, the deliverables would be produced, which is why we asked the vendor for that, and which we expect to include as a component of the contract.</p> <p>Finally, as detailed in Risk #R3, we have developed a chart of deliverables by Phase, and expect to discuss/negotiate payment amounts with the vendor as part of contract development.</p>	<p>deliverables. Requirements provide scope, but are not a one to one tie with deliverables. Minimum deliverables outside of project management could include completed UAT, completed training, and deployment or software releases. We are satisfied that the list of deliverables and timeline and payment is being addressed by AOER and ADS.</p>
<p>The lack of a common definition of "enterprise architecture" means that the State cannot capitalize on solutions that advance its goal of utilizing software solutions across the state.</p>	<p>AOE included in its evaluation, the Grants Management solution in use at Agency of Transportation and Agency of Commerce and Community Development in order to entertain one of the components of Enterprise architecture, namely "common software used across agencies". While AOE did not select that solution, the selected solution does meet other Enterprise considerations, such as a standard database (Microsoft SQL) and standard technology framework (.NET).</p>	<p>We accept the planned response but encourage the ADS to provide a more comprehensive definition of what "enterprise architecture" means. ADS should also consider modifying the IT-ABC document to require enterprise architecture evaluation or desirability/feasibility inquiry prior to solicitation.</p>
<p>There is a risk that AOE has not fully vetted existing software</p>	<p>State of Vermont takes the position to not compel a vendor</p>	<p>We accept the response, but wish to clarify that we do not</p>

Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
<p>contracts for managing grants within the State, resulting in a missed opportunity to rely on economies of scale and reduce costs to the State.</p>	<p>to bid on publicly posted bid opportunities, so AOE did not reach out to PeopleSoft, Oracle, or any other vendor, to request or suggest that they bid on the publicly posted Grants Management RFP. Further, AOE feels that bids received provide a broad and adequate cross-section of solutions within the Grants Management space, providing AOE a rich pool from which to select a solution. As noted above, the Enterprise solution conversations with ADS involved Grants Management solutions already in place within the State.</p>	<p>expect the State to compel any firm to bid. Rather, given the State's value of enterprise architecture capable solutions, we expected that the State would have done a formal inquiry of the level of fit of the PeopleSoft solution prior to making a decision to issue an RFP.</p>
<p>Unique AOE business processes could add time and complexity to software implementation, and thus to the project schedule.</p>	<p>Vendor solution supports both "Reimbursement Request" model and "Scheduled Payments" model. AOE will consider changing their business process for payments to the "Reimbursement Request" model vs. the currently used "Scheduled Payments" process. However, should AOE elect to continue using "Scheduled Payments" process, there is no risk as that functionality exists within the proposed solution.</p>	<p>We accept the planned response.</p>
<p>The possibility of an incomplete list of non-functional requirements needed for the contract may stall contract execution.</p>	<p>AOE included Non-Functional requirements (NFRs) in the RFP which are critical to AOE. Typically, ADS suggests additional NFRs for the business to consider, but does not force the business to adopt them. Per Keith MacMartin: "This requires further review. The AOE team did a good job in</p>	<p>Additional NFRs will delay the execution of the contract and cause the preferred vendor to possibly revisit its cost. An RFP issued by the State, in our opinion, should include all requirements, both functional and non-functional.</p>



Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
	<p>adding many necessary NFRs to the RFP in narrative format, and I don't anticipate having to add many additional NFRs. I will certainly work with AOE to make sure that I complete my review of this quickly and that any additional NFRs are added soon. My sense is that very few additional NFRs would be suggested, but I need more time to completely review this item.””</p>	
<p>The State faces the risk of a procurement challenge due to inconsistencies in scoring oral presentations/product demonstrations</p>	<p>1) The State did not have the same individuals score each of the oral presentations/product demonstrations.</p> <p>a. AOE created a core decision-making team, consisting of technical and program experts that represented all stakeholders in the GMS, which included Mary Mulloy, John Leu, Frank J. Perricone, Jennifer Gresham, Sean Cousino, and David Gadway. Vendor presentations were scheduled to ensure the core team could be present for all presentations; however, AOE also invited all other stakeholders to attend where schedules allowed, seeking to benefit from the diversity of perspectives when possible.</p> <p>2) A “fail” response to a single mandatory requirement by the preferred vendor was waived by the State, when the other two finalists answered that they could perform the requirement. The preferred vendor narrative response to the</p>	<p>We agree that the State should accept the risk. Beginning the procurement again is an unreasonable option, and BerryDunn feels that a structured and detailed methodology was followed in scoring proposals. However, and in our experience, some vendors, particularly unsuccessful ones, will challenge a procurement result if there are any inconsistencies in scoring approach and we find that some were present.</p> <p>The Office of Purchasing and Contracting has confirmed that the winning vendor received the highest score from the core scoring team.</p>

Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
	<p>requirement indicated it could conduct some part of the requirement, which is presumably the justification for the waiver.</p> <p>a. During discussion with vendors while reviewing proposals, AOE determined that the question (which, to be clear, wasn't a PASS/FAIL criterion as defined in the RFP, but a functional requirement) had been written ambiguously and MTW's answer reflected that ambiguity. In fact, all three vendors could meet this requirement by the same method, which is the same as the one AOE currently uses in Grantium: the creation of a report that 'exports' the answers for all applications for a grant program, and which can be saved into Excel. MTW's "no" answer reflected their interpretation of the question as referring to an export within a single application into the Excel format, similar to other questions which refer to exports to PDF format.</p> <p>3) Because the two unsuccessful finalists only offered to put a fraction of the required 14 grants online, the State was unable provide an apples-to-apples cost comparison. Furthermore, the same two finalists were invited to oral presentations/product demonstrations while being unable to provide a solution that</p>	



Risk Description	State's Planned Risk Response	Reviewer's Assessment of Planned Response
	<p>allowed the State to process all 14 grant types.</p> <p>a. Each vendor proposed what they felt was the most appropriate approach to completing all required Grants. The fact that other finalists did not propose to complete all 14 Grants within the required timeline was factored into the decision. AOE did develop an apples to apples price comparison per the Executive Summary provided to Berry Dunn as part of the IR.</p>	

1.5 Other Key Issues

Recap any key issues or concerns identified in the body of the report.

The contract between the State and the preferred vendor is only in rough-draft form and is awaiting finalization of deliverables and a decision on a disaster recovery site, among other things. Contract development and finalization is a lengthy process and it will likely have an impact on the project kickoff date. The State should develop a clear path to contract finalization and adhere to it. There is a risk of missing the 2018 grant year on the new solution if kickoff is delayed too far.

1.6 Recommendation

Provide your independent review recommendation on whether or not to proceed with this technology project and vendor(s).

We recommend that the project proceed. In a worst-case scenario, AOE could continue to use the existing software beyond the contract expiration and support termination date of December 31, 2019. However, the decision to acquire and integrate a new solution that better meets the needs of the AOE (and thus the State)—and that migrates to a hosted platform, keeps the State on regularly supported software, and relies on a proven solution in other states with the same mission—is a sound decision. Despite some instances in scoring that could increase the likelihood of a challenge (see Risk 12 in Section 12.0), the State has followed a structured approach to the RFP development and vendor/solution selection.

1.7 Independent Reviewer Certification

I certify that this Independent Review Report is an independent and unbiased assessment of the proposed solution's acquisition costs, technical architecture, implementation plan, cost-benefit analysis, and impact on net operating costs, based on the information made available to me by the State.



Charles K. Leadbetter, PMP

Principal

Independent Reviewer Signature

9/8/2017

Date

1.8 Report Acceptance

The electronic signature below represents the acceptance of this document as the final completed Independent Review Report.

State of Vermont Chief Information Officer

Date

2.0 Scope of this Independent Review

2.1 In-Scope

The scope of this document is fulfilling the requirements of Vermont Statute, Title 3, Chapter 45, §2222(g):

The Secretary of Administration shall obtain independent expert review of any recommendation for any information technology initiated after July 1, 1996, as information technology activity is defined by subdivision (a)(10), when its total cost is \$1,000,000 or greater or when required by the State Chief Information Officer.

The IR Report includes:

- An acquisition cost assessment
- A technology architecture review
- An implementation plan assessment
- A cost analysis and model for benefit analysis
- An impact analysis on net operating costs for the AOE carrying out the activity
- An overall risk assessment of the proposed solution

This IR was developed using this schedule:

- Week of June 19, 2017: Project initiation and meeting for scheduling a discovery request
- Week of June 26, 2017: On-site interviews and interview with the vendor
- Weeks of July 3 and July 10, 2017: Draft IR Report and Risk Register development
- Week of July 17, 2017: Risk identification and mitigation strategy review with Oversight Project Manager (OPM); continuation of draft IR Report and Risk Register development
- Week of July 21, 2017: Submit initial draft IR Report to OPM;
- Week of July 24, 2017: Make initial updates to IR Report and submit updated draft IR Report to OPM;
- ²Week of August 7, 2017: Present IR to CIO; Complete any follow-up work and updates to the IR Report; obtain CIO sign-off via the OPM on the IR Report

2.2 Out-of-Scope

If applicable, describe any limits of this review and any area of the project or proposal that you did not review.

This IR Report does not include procurement negotiation advisory services. No draft contract was reviewed.

² Project task as of the writing of this report.

3.0 Sources of Information

3.1 Independent Review Participants

List the individuals who participated in this Independent Review.

Name	Employer and Title	Participation Topic(s)
Jennifer Gresham	AOE, Education Division Director	Technology Architecture Review Project Information Cost Analysis Implementation Plan Review Initial Risk Assessment
David Gadway	AOE/Strategic Technology Services, IR Lead and Business Analyst	Technology Architecture Review Project Information Cost Analysis Implementation Plan Review Initial Risk Assessment
Frank J. Perricone	AOE, Technical Lead/Interim PM	Technology Architecture Review, Evaluation of Benefits of New System Project Information
Keith MacMartin	ADS, Enterprise Architect	Technology Architecture Review
Brian Townsend	AOE, IT Lead	Technology Architecture Review Project Information Cost Analysis Implementation Plan Review Initial Risk Assessment
Philip Dessureau	ADS, EPMO Oversight PM	IR Project Management and Oversight
Dan Carier	MTW Solutions, Vice President	Project Information Initial Risk Assessment

3.2 Independent Review Documentation

Complete the chart below to list the documentation utilized to compile this independent review.

Document Name	Description	Source
EPMO Minimum Deliverables – Classic	Templates for project management and standard State deliverables	AOE/David Gadway
Executive Summary: Findings and Recommendations Grants Management System Selection Project	Executive Summary of Findings and Recommendations related to the GMS selection project	AOE/David Gadway
AOE_GMS_ScoreCard_Master_AllTeamScores	Scores document for all RFP responses	AOE/David Gadway
AOE_GMS_ScoreCard_VendorPresentation_Scoring	Record of vendor presentation scores	AOE/David Gadway
IT_ABC_Form_AOE_GrantsManagement_2016-01-25 signed sealed and delivered	Final Business Case for Grants Management System Project; includes separate Excel document for calculations of Business Case costs	AOE/David Gadway
AOE_GMS_ProjectBudget_V1 (1)	Project budget	AOE/David Gadway
AOE_GrantsManagementSystemProjectCharter	Project charter	AOE/David Gadway
Agate_TeamReview	Notes taken by State staff in evaluation of Agate presentation	AOE/David Gadway
HTC_TeamReview	Notes taken by State staff in evaluation of HTC presentation	AOE/David Gadway
MTW_TeamReview	Notes taken by State staff in evaluation of MTW presentation	AOE/David Gadway
GMS_VendorPresentation_Scoring	AOE Grants Management Vendor Presentation Scorecard for each vendor presenting and a summary table of scores	AOE/David Gadway
AOE_GMS_Finalist_EstimatedCosts	Cost comparison of three finalist vendors	AOE/David Gadway
AOE_GMS_RFP_ATTACHMENTS (2)	RFP attachments	AOE/David Gadway
AOE_GMS_RFP_FINAL_2017-02-09	RFP	AOE/David Gadway

Document Name	Description	Source
RFP Invite List	Distribution list for the RFP	AOE/David Gadway
Job Specification: INFORMATION TECHNOLOGY PROJECT MANAGER IV	VT AOE IR Job Specification for Denise Sanders Replacement	Frank J. Perricone
AOE GMS – Architecture Assessment Report_final	Assessment of applicability of preferred solution to enterprise architecture principals	Keith MacMartin
Department of Information (DII)- Strategic-Plan-FY2016-2020	Strategic plan for the Department of Information and Innovation (now ADS)	ADS website

4.0 Project Information

4.1 Historical Background

Provide any relevant background that has resulted in this project.

Support for the existing AOE GMS, Grantium G3, is set to expire on December 31, 2019. AOE will be left owning an unsupported software for a core mission. The Agency therefore elected to issue a solicitation for a new solution and associated implementation, maintenance, and support. A solicitation was issued in February 10, 2017, and a tentative award was made to MTW Solutions (MTW) in May 2017.

In addition to the pending termination of support for the current system, AOE notes a number of deficiencies or less-than-desirable traits of the existing GMS that make a new system desirable. AOE reports that about four years ago, a Request for Information (RFI) for GMS was issued, indicating that interest in improving the existing GMS is not new. The following items are taken from documentation provided to BerryDunn, including the RFP for a new GMS, the IT-ABC Business Case, project charter, and notes from discussions taken during discovery meetings:

- There is a lack of support or available functionality for Grant Sub-Recipients. This includes, as reported in the IT-ABC Business Case, “no means for them to see where they are in the Grant application review process, where they are relative to total budget consumed to date, and no good method of self service, including reporting and account maintenance.”
- Grantium G3 offers grants management for only 60% of the grants administered by AOE. The remaining 40% are managed outside of the system with manual processes, spreadsheets and other workarounds.
- The existing database structure of Grantium G3 makes report creation difficult. AOE reports that populating a new report or data query can take up to three hours to populate. An AOE-created workaround cut down on some of the delay with creation of a sub-table from which to run reports.
- There is no ability to save the contents of a prior-year grant application to allow users to easily begin the next granting year. As many of AOE’s grantees reapply annually for the same grants, the inability to reuse basic data from the prior year’s application is in an inefficiency.
- AOE reports that it receives only the bare minimum support from the Grantium G3 vendor, CSDC Systems. AOE further reports that upgrades to the system take months to fix and that the new functionality is not thoroughly tested. AOE reports being used as alpha testers for new Grantium G3 releases.

4.2 Project Goal

Explain why the project is being undertaken.

The project is being undertaken to replace AOE's GMS software. The existing GMS is a product called Grantium G3, and was acquired by AOE and the State in September 2008. Support for the Grantium G3 software through its contracted provider, CDSC, will end in December 2019, as will the State's contract with CDSC (barring any extension). Absent a new solution, AOE will have to rely on a system that is unsupported by software updates and patches.

4.3 Project Scope

Describe the project scope and list the major deliverables. Add or delete lines as needed.

The scope of the project and solicitation is included in the RFP issued February 10, 2017. The RFP describes the need and solution sought, and also includes a list of both functional and nonfunctional requirements. Requirements comprise the most definitive list of scope available. Scope of the project is also defined in the project charter dated May 22, 2017:

- Implementation of a GMS that meets all mandatory functional requirements and non-functional requirements as specified in the issued RFP, as well as:
 - Development of up to 14 Grant Programs/Applications/Workflow processes to support Grant Programs currently online, as well as other programs not yet on-line
 - Testing Services
 - Training Services (user and technical)
 - Change Management Services
 - Project Management Services
- Hosting of Grants Management Solution
- Transition to maintenance services supporting AOE plan to maintain some, if not all, of the Grant Program Application and Workflow processes on a go-forward basis
- Potential for data migration services from current solution
- Vendor knowledge/understanding of federal laws and policies that impact state-level granting procedures, leading to implementation of a GMS solution that is in compliance with these laws and policies, and in line with national best practices
- Payments generated in the GMS will be sent directly to the VISION system for processing without manual rekeying
- Vendor-led training of AOE staff on use, configuration, and maintenance of the GMS, including development of new forms and applications

The project charter also defined what is out of scope:

- The vendor leading public training or rollout of the solution
- Receiving payment status from VISION and updating records within the system may not be possible, depending on availability of data from VISION

4.3.1 Major Deliverables

Except for the minimum deliverables required by the Enterprise Project Management Office (EPMO) for the State, there is no list of deliverables in the RFP. There are multiple references to the term “deliverable” in the RFP and thus it is assumed that the State anticipates some list of deliverables. As of the week of June 26, 2017, AOE had asked the preferred vendor to define a list of deliverables and tie them to dates in the software implementation schedule.

1. Contractor PM to work with State project team to finalize a detailed project work plan (in Microsoft Project). The selected contractor shall maintain and update the project plan on a regular basis (at least weekly, if not daily)
2. Project kickoff meeting
3. A detailed Project Management Plan (PMP)
4. Weekly project status reports as defined above
5. Up-to-date project issue log
6. Up-to-date project risk log
7. Weekly project team meetings, which shall include meeting agendas and meeting discussion logs, action items, and updated issue and risk logs accordingly.

A risk around the absence of stated deliverables is documented in sections 10 and 12 of this report.

4.4 Project Phases, Milestones, and Schedule

Provide a list of the major project phases, milestones, and high level schedule. You may elect to include it as an attachment to the report instead of within the body.

Insight into project phases, milestones, and high-level schedule is found in two different places within the preferred vendor’s response. The first is within the implementation schedule. The solution implementation schedule indicates a planned period of about six months. The planned kickoff date is September 1, 2017, and final training is projected to be completed on March 22, 2018. A 90-day period of post-production support begins on March 15 and goes to July 19, 2018. The following phases are listed in the implementation project schedule:

- AOE GMS Planning Phase
- GMS Program Definition Phase
- GMS Platform Initiation Phase
- Develop Phase 1 Grant Programs Within GMS

- Develop Phase 2 Grant Programs Within GMS
- GMS Training and Documentation
- GMS Production Deployment

The following tasks are listed in the Implementation Costs tab of the Cost Workbook. The following list of project tasks also indicates what the project phases and milestones may be:

- Project Governance and Change Management Plans submitted and approved by AOE
- GMS Environments provisioned; users loaded; websites available to AOE
- Requirements Sessions completed and documented with all programs listed in the RFP
- First-Year Grants developed and completed through Acceptance Testing (Sprint 1)
- First-Year Grants developed and completed through Acceptance Testing (Sprint 2)
- Monitoring Collections developed and completed through Acceptance Testing (Sprint 1)
- Monitoring Collections developed and completed through Acceptance Testing (Sprint 2)
- GMS Data Warehouse installed in Production; ETL processes running nightly; 12 Base Reports online
- Training sessions delivered for AOE staff on Reviewing, Scoring, Workflow Security, and Data Warehouse
- Training delivered to Applications on Registering, Applying, Payments, and Closeouts
- VISION Interface and Reconciliation Process developed and completed Acceptance Testing

5.0 Acquisition Cost Assessment

List all acquisition costs in the table below (i.e. the comprehensive list of the one-time costs to acquire the proposed system/service). Do not include any costs that reoccur during the system/service lifecycle. Add or delete lines as appropriate. Based on your assessment of Acquisition Costs, please answer the questions listed below in this section.

Acquisition Costs	Cost	Comments
Hardware Costs	\$0	There are no additional hardware costs.
Software Costs	\$0	Licensing costs are considered an operation cost and are reflected in the Operations section.
Implementation of Program	\$256,240.00	No comment
Training of AOE Staff	\$34,560.00	No comment
Year One Hosting	\$27,000.00	No comment
Technical Staff/State Labor for Project Management	\$47,528.00	No comment
Other State Labor to Implement the Solution	\$112,031.00	No comment
Independent Review	\$21,000.00	No comment
Strategic Technology Services, Inc. Acquisition Assistance	\$40,000.00	No comment
3% Charge for ADS Project Management Office (PMO)/Enterprise Architecture (EA) Services Project Implementation Cost	\$16,150.77	3% does not factor in IR and Strategic Technology Services costs.
Total Acquisition Costs	\$552,679.77	

1. Cost Validation: Describe how you validated the Acquisition Costs.

- Implementation of Program and Training of AOE Staff costs come from Tab 3 of MTW's cost sheet (\$290,800)
- Hosting for the first year of the solution is found in Tab 4 of MTW's cost sheet (\$27,000)
- Technical Staff/State Labor for Project Management and Other State Labor to Implement the Solution costs come from Tab 2 of the Business Case Workbook (Estimated Labor

Costs). This is calculated as the project management costs on the part of the State and the cost of additional labor from State resources during implementation (\$159,559)

- BerryDunn's IR cost (\$21,000)
- Strategic Technology Services, Inc. Acquisition Assistance cost given by the State (\$40,000)

3% of Implementation Costs for ADS PMO/EA project implementation costs, excluding BerryDunn and Strategic Technology Services, Inc. costs (\$14,320.77). Assumptions:

- The Life Cycle Cost Benefit Analysis assumes a "refresh" in go-live Year 4. The mention of refresh in the MTW proposal is "Provisioning and ultimately refreshing the (VM) Servers is the primary consideration for self-hosted clients."
- MTW only proposed eight years for project life cycle. BerryDunn added two more years to their costs to get to 10 years.

2. Cost Comparison: How do the Acquisition Costs of the proposed solution compare to what others have paid for similar solutions? Will the State be paying more, less or about the same?

The State did not check what other, similarly sized states paid for this software. Four years ago, the State did release an RFI. Risk R7, as detailed in the Risk Register, states the risk of the State overpaying by overlooking this step.

3. Cost Assessment: Are the Acquisition Costs valid and appropriate in your professional opinion? List any concerns or issues with the costs.

Without any other state research, there is little to compare these costs to. The cost of this solution compared to the other finalist bidders is higher. However, the two other finalists' solutions did not offer functionality for all 14 grants, so the lower cost of the two other finalists must be taken in context.

Additional Comments on Acquisition Costs:

6.0 Technology Architecture Review

After performing an independent technology architecture review of the proposed solution, please respond to the following.

1. State's IT Strategic Plan: Describe how the proposed solution aligns with each of the State's IT Strategic Principles:

1) Leverage successes of others, learning best practices from outside Vermont

The preferred solution GMS, provided by MTW, is in use in several states. In its cover letter, MTW stated, "Since 1997, when we first started working on grants management automation with state education agencies, Illinois, Missouri, New Jersey, Louisiana, Nebraska, Wyoming, Montana, Oklahoma, Washington DC, and South Dakota have selected MTW because of our superior product coupled with our unmatched domain expertise with federal education grant programs." ADS/AOE reported that MTW has not lost a client in the education grant space.

AOE reports that because of MTW's focus on education agency grants, it is able to build a "consolidated federal application," which are the forms used to apply for federal grants. This functionality is not natively available in Grantium G3; a manual workaround is necessary to accomplish this function. By using MTW's GMS, the functionality will now be available to AOE without the current level of manual effort.

2) Leverage shared services and cloud-based IT, taking advantage of IT economies of scale

The State has a cloud-host, virtualization first preference. The proposed hosting solution will reside in a data center in the Kansas City, Missouri, area that is owned and operated by Consolidated Communications, Inc. The GMS will be available to AOE over the internet in a virtualized environment.

3) Adapt the Vermont workforce to the evolving needs of state government

AOE reports that it is operating under reduced funding in the State and that its GMS fulfills a fundamental part of the Agency's missions to ". . . provide leadership, support, and oversight to ensure that the Vermont public education system enables all students to be successful."

Given the limitations on adding staff at AOE, the solution should be expected to reduce the amount of work that state employees need to spend administering the grants process. Some noted benefits of the planned solution, which may reduce staff need for involvement, are improvement in reporting and bringing forward prior-year grant information. For example, reporting has been noted to be cumbersome when data is pulled from a single table within Grantium G3. The current system also does not allow grant applications to "bring forward prior-year data," requiring an application to be started from scratch. This was a requirement in the State's RFP. Requirement #42 reads: "Ability to specify data on an application that 'rolls forward'

from a previous application (e.g., last year's data)." The preferred vendor answered affirmatively and responded with: "MTW's Grant Design Tool is capable of retrieving data from the last approved application in prior years. This data can then be modified, where updates are necessary."

4) Apply enterprise architecture principles to drive digital transformation based on business needs

On May 16, 2017, ADS published a report entitled "Enterprise Architecture Vendor Assessment Report of Request for Proposal (RFP) for Agency of Education (AOE) Grants Management System (GMS) Responses." The report concludes that all three finalists in the solicitation under review by this IR are "recommended" from an enterprise architecture standpoint. The report provided a higher enterprise architecture ranking for the Agate Intelligrants system—a grants solution in use by other State agencies—than the preferred solution and vendor GMS by MTW, but noted that, when determining the ranking, the "the actual scores in this case varied by less than 1% - the ranking should be considered in that light." The report did not examine applicability of use of the State's central accounting system, VISION. VISION is a PeopleSoft product, and PeopleSoft has a grants management module.

There has been some ambiguity concerning what is meant by "enterprise architecture." During discovery meetings, AOE and ADS staff noted that an enterprise architecture-capable system could be one software solution that meets the needs of multiple agencies, use of a data warehouse for reporting by multiple grants software solutions, or use of common software platform, such as Microsoft .NET across multiple state agencies. In addition to the Enterprise Architecture Vendor Assessment Report, the "Executive Summary: Findings and Recommendations: Grants Management System Selection Project" devotes a section of its rationale for selecting MTW's GMS as the preferred solution to enterprise considerations. The report assumed that the benefits of an enterprise-class solution included cost savings, statewide reporting, and a single sign-on for all grant recipients. The Executive Summary made some comparisons among the offerors based on these factors, but did not cite any overall advantage among the vendors from an enterprise architecture standpoint.

AOE and ADS spent some time following the selection of MTW to evaluate the decision against enterprise architecture standards. Despite the conclusion of the Enterprise Architecture Vendor Assessment Report that a solution other than MTW highest ranked in enterprise architecture considerations, AOE reports that the procurement parties involved (ADS and Office of Purchasing and Contracting) have accepted the choice of MTW. It is noted in procurement documents that Grantium G3 was originally designated as the State's enterprise solution for grants. As of this report, AOE is the only agency using Grantium G3. No stakeholder analysis was conducted prior to the RFP to determine whether AGATE or PeopleSoft/VISION would meet all needs of AOE.

5) Couple IT with business process optimization, to improve overall productivity and customer service

AOE cites a number of advantages to the MTW solution and its ability to increase process optimization and customer service:

- A key benefit of the preferred vendor is its solution's ability to accommodate all 14 grant types. Other solutions evaluated could not provide a built-in software solution to accommodate all types.
- Solution allows users to build new grant forms.
- All but one mandatory functional requirement (functional requirement 82) was responded to as "yes" or "mod" (modification), indicating that the solution has as high level of fit.

6) Optimize IT investments via sound project management

The RFP included the standard project management language. The preferred vendor has identified its PM and AOE is in the process of hiring a PM for this effort. An assistant State PM has also been assigned.

7) Manage data commensurate with risk

AOE has stated, and the preferred vendor's proposal has confirmed, that the grants data is largely public record. No overt personal information is contained in the grants database. AOE reports that only via manual examination of ZIP codes and certain grant types could personal information be intuited.

8) Incorporate metrics to measure outcomes

The MTW solution emphasizes its ability to track grant outcomes. On page 73 of its Technical Response, MTW states that the software can create expected outcomes and then measure performance against it or make comparisons that facilitate an outcome-based analysis.

2. Sustainability: Comment on the sustainability of the solution's technical architecture (i.e., is it sustainable?).

The solution is based on Microsoft .NET technology. The State has contracted for Microsoft-based solutions. The solution is planned to be hosted by the vendor, and the solution is used by 11 other states.

3. Security: Does the proposed solution have the appropriate level of security for the proposed activity it will perform (including any applicable State or Federal standards)? Please describe.

AOE grants are public record and the GMS does not contain personal information. The vendors response states, "We have reviewed Chapter 62 of Vermont Statutes regarding Personally Identifiable Information (PII) and take no exceptions." The vendor also agreed to a SSAE-16 audit and penetration testing, although the vendor reports that penetration testing is a requirement they have not had to accommodate before.

4. Compliance with the Section 508 Amendment to the Rehabilitation Act of 1973, as amended in 1998: Comment on the solution’s compliance with accessibility standards as outlined in this amendment. Reference: <http://www.section508.gov/content/learn>

The preferred vendor reports in its technical proposal, “For Section 508, we make sure that screen readers could support the completion of all GMS web pages for persons with Visual Disabilities. When color is used to highlight a feature, that color is never the only means of identifying that same feature.”

5. Disaster Recovery: What is your assessment of the proposed solution’s disaster recovery plan; do you think it is adequate? How might it be improved? Are there specific actions that you would recommend to improve the plan?

At the time of discovery sessions, the disaster recovery site had not been decided upon. AOE reports some concern about data backups going to other data centers in the Kansas City area, as this is where the primary solution site is located. As an alternative, the preferred vendor has identified two sites that may serve as disaster recovery locations that are further from Kansas City: Jefferson City, Missouri, and Sacramento, California. AOE reports that the Sacramento site is should be ready by the time the MTW solution goes live in Vermont.

AOE reports that its disaster recovery plan is likely out of date. Minimally, the plan should be updated to reflect the new solution once operational.

6. Data Retention: Describe the relevant data retention needs and how they will be satisfied for or by the proposed solution.

Currently, AOE program offices (including grants management) download Portable Document Format (PDF) files of all grants applications, grants, and other business records. AOE is required by the U.S. Department of Education to keep grants records for audit purposes for five years, and, if an audit occurs, the records must be kept for seven years.

In the response to the following question, “Please describe how your system handles older data, conforming with records retention policies, while keeping lists/menus from becoming burdensome with long ago completed grants and applications, providing access to archived data when necessary for audit purposes, and any other functions that help it strike an efficient balance between performance and ease of use with complete access to necessary information,” the preferred vendor provided this response:

“MTW shifted to a web page that lists all applications for a given fiscal year. While we still have older data online in many states, that data no longer wastes real-estate on the web page. It must be explicitly requested, by switching back to that year, as compared with the default of the current fiscal year.”

There is no explicit mention of providing access to archived data when necessary for an audit, but AOE reported that the preferred vendor would allow AOE to give auditors reduced access to

the GMS, which the current system cannot currently do. AOE reported that it feels one of the benefits of the planned new system is the reduced number of audits. AOE also reports that the preferred vendor maintains two weeks of backups and completes hourly snapshots of transaction logs. The solution includes a versioning feature, allowing prior versions of records to be preserved.

7. Service Level Agreement: What are the post implementation services and service levels required by the State? Is the vendor proposed service level agreement adequate to meet these needs in your judgement?

It is difficult to state that the vendor-proposed service-level agreement meets the State's needs, as the needs have not necessarily been articulated. The State's approach to post-implementation services and service levels was to ask the vendor community what they offered for support. Citations in the RFP include Section 4.6, which reads, "All proposals shall provide a complete description of its standard support offerings for end users and technical staff including; help desk, application and technical support. Provide a copy of the standard service-level agreement covering these services if applicable; provide; however, the State reserves the right to negotiate service-level requirements in connection with any Contract" and 4.7, which states, "Contractor shall provide the State with all . . . service level descriptions and details . . ." and the preferred (and presumably other vendors) responded using Attachment H of the RFP. Attachment H lists 17 non-functional requirements, some of which are related to service levels. All are posed in a question or "please respond" form. Therefore, the State provided little guidance as to what its service-level requirements are.

AOE reports that it felt the standard response was acceptable and that very little downtime was reported by other preferred vendor customers. The preferred vendor reports that it has "maintained well over 99.99% system uptime" in the 12 years that it has hosted solutions for other states. AOE reported a concern about the lack of, or lack of clarity around, a state recovery time objective (RTO). In the opinion of the writers of this report, an RTO is best established by the business that needs it.

8. System Integration: Is the data export reporting capability of the proposed solution consumable by the State? What data is exchanged and what systems (State and non-State) will the solution integrate/interface with?

The proposed solution meets all 10 reporting requirements in the list of functional requirements (RFP Attachment G).

AOE and ADS reported that the existing solution has a number of shortcomings with respect to reporting. Specifically, reports are time consuming and require significant manual intervention to run in the current software, and the data is sometimes incomplete.

AOE reports that the planned solution allows for export of data to common file formats, such as Excel and PDF.

The sole State system that will integrate with the preferred vendor's solution is the State's accounting and ERP system, VISION.

Additional Comments on Architecture:

The detailed response to proposed solution architecture is found on pages 93 – 94 of the narrative response to non-functional requirements in MTW's technical proposal.

7.0 Assessment of Implementation Plan

After assessing the Implementation Plan, please comment on each of the following.

1. The reality of the implementation timetable

MTW and the State plan to begin the project on September 1, 2017, and complete implementation by mid to late March, 2018. A period of post-production support continues through July 19, 2018.

MTW has expressed confidence that it can meet its stated go-live date. The State also expressed optimism in regards to the project timeline. Stakeholders were confident that the vendor already had experience with many of the grants that would need to be added to the solution.

The Vermont project includes 14 grant types. By way of comparison, MTW states it completed an implementation in a different state that had 60 grant types in 11 months. Implementation for a third state was completed in nine weeks.

MTW mentioned that there is no “single thread” that could delay the entire project. Additionally, MTW plans to split up the grants it needs to bring onto its platform into two parts and work on them simultaneously (as can be seen above). They also expressed that in work with similarly sized states, the development process took a shorter amount of time than anticipated. The March 15 go-live date is two months in advance of the time when grant applications open (generally mid-May), which provides the project with a small buffer.

There are several risks that could impact the timeline:

- R1: There is a risk of project delay and unfulfilled obligations by the State due to an unfulfilled State PM position.
- R2: There is a risk to project scope, schedule, and cost if the State and AOE do not agree upon a scope of data migration.
- R4: There is a risk to project scope, schedule, and cost around lack of defined deliverables and payment milestones.
- R5: There is a risk of contract execution delay due to ambiguity around the type of contract the State will agree to: a firm-fixed-price contract that is deliverables-based, or a time and materials contract.
- R8: Unique AOE business processes could add time and complexity to software implementation, and thus to the project schedule.
- R9: A delay in project kickoff increases the risk that the State cannot use new GMS software in the 2018 grant cycle.

- R10: The lack of a defined solution/hosting disaster recovery site delays the planned contract execution date.
- R11: The possibility of an incomplete list of non-functional requirements needed for the contract may stall contract execution.

While the project timeline does face a number of risks that could impact both the start date and the go-live date, the vendor has experience working with states similar to Vermont in size and specializes in education grants. The vendor also has built a several-month buffer into the project plan that could be used if the project were to be delayed. Given the vendor's experience, the buffer within the project (both built into the plan and at the end), and the attention given to the risks, the project timeline does not seem unreasonable.

2. Readiness of impacted divisions/departments to participate in this solution/project (consider current culture, staff buy-in, organizational changes needed, and leadership readiness).

The current solution causes a number of problems for AOE staff. During the interviews held with the Agency, the new solution appeared to have near-universal buy-in. IT staff were looking forward to be able to add functionality instead of spending time fixing existing problems. Technical staff seemed to believe their job would become easier with the new solution. There was a belief that the applicants using the program would have a better experience. In terms of vendor-required state resources, the State seemed to believe the requirement of .74 FTE of state resources during implementation, as quoted in the proposal, was reasonable.

There are several risks surrounding AOE staff. The PM has recently retired. This is represented as R1 in the Risk Register. The State has posted a job to fill the PM role. The application period for this posting will close on July 9, 2017, and AOE staff expressed that they hope to have the position filled before the kickoff date as well.

- R1: There is a risk of project delay and unfulfilled obligations by the State due to an unfulfilled State PM position.

As discussed in Risk R6, the State has not put forward an agreed-upon definition of enterprise architecture. Following the conclusion of proposal scoring, there was a re-visitation of the selected solution in light of enterprise architecture considerations. Initial hesitation about approving the selected vendor for enterprise architecture reasons has since been resolved.

- R6: The lack of a common definition of "enterprise architecture" means that the State cannot capitalize on solutions that advance its goal of utilizing software solutions across the state.

3. Do the milestones and deliverables proposed by the vendor provide enough detail to hold them accountable for meeting the Business needs in these areas?

As discussed in Risk R4, the State did not define deliverables or milestones in the RFP. The State was intending to use vendor expertise to guide development of deliverables. The vendor did provide a list of tasks with corresponding proposed payments. The State is currently working

with the vendor to set milestones, deliverables, and payments with the vendor as part of contract negotiation. Lacking State-defined deliverables with corresponding payments, this section will be used to examine the details within MTW's proposal.

A. Project Management

In its proposal to AOE, the vendor summarized its project management approach, project management structure, Project Plan, Requirements Management Plan, Risk Management Plan, Issue Management Plan, Change Control Management Plan, Communications Management Plan, and Quality Management Plan, and outlined how often it will issue reports. According to MTW's cost proposal, this is the first task, and is planned for delivery by September 26, 2017.

B. Training

In its cost sheet, MTW has two different deliverables that address training: "Training Sessions delivered for AOE staff on Reviewing, Scoring, Workflow Security and Data Warehouse" and "Training Delivered to Applications on Registering, Applying, Payments, Closeouts." Its proposal goes into further detail to "indicate the level of education and training to be provided to State staff related to the operation of equipment and the proposed solution." A more detailed training plan will be developed early in the project. Some of the training is scheduled to take place in the early weeks of the project, but all staff will eventually receive training in the program. The training for individual grants will be split up between the two phases of grants. The training plans are scheduled to be developed several months in advance of the training. For Phase I, the training is scheduled to take place November 24, 2017 – February 1, 2018. For Phase II, the training will take place December 1, 2017 – February 19, 2018.

The State indicated it believes it will be responsible for training the schools that will apply for grants through the program. It would do this upon receiving training from MTW. The phase "GMS Training and Documentation" is due to start on January 26, 2018, and end on March 28, 2018. Within this phase, MTW has put forward the dates of March 15 – March 22 as train-the-trainer and stakeholder training dates, which take place roughly two months before the grant applications would start.

C. Testing

MTW did propose that several of its paid deliverables be tied to User Acceptance Testing (UAT). Deliverables (and their corresponding payments) associated with both "sprints" of grants, as well as the final deliverable, would be dependent on completed testing. The payment corresponding to the deliverable is not large. MTW has planned UAT for both phases of the grant programs. UAT for Phase I is due to run January 9, 2018 – January 26, 2018. UAT for Phase II is due to run February 19, 2018 – March 15, 2018.

D. Design

MTW has several deliverables that are tied to development. Deliverables 2 – 8 in the cost table provided as part of its proposal cover the creation of environments, requirements sessions, the development of Phase I and Phase II grants, the monitoring of those grants, and the installation

of the data warehouse. The different phases of the project are also detailed within MTW's proposal.

E. Conversion (if applicable)

While MTW has scheduled migration/conversion within its plan, it also noted a concern about the scope of data migration. One of the assumptions listed in MTW's cost sheet was that migration would lead to additional costs. Both the MTW and the State seemed to believe that more discussion regarding migration and conversion was necessary. As of the writing of this report, the State reports that data migration of existing grants data from Grantium is out of scope.

F. Implementation Planning

During the Program Definition phase of the project, MTW has set up time to review the requirements set by AOE and the capabilities of the GMS software to perform those requirements. It will plan implementation given these requirements.

G. Implementation

MTW plans to implement its product over two phases or "sprints." Each sprint will involve bringing a number of grants online. The sprints are to take place concurrently, although Sprint One is due to begin on September 12, 2017, and end on February 15, 2018, and Sprint Two is due to start on November 6, 2017, and end on March 22, 2018. Sprint One is made up of six grants: Consolidated Federal Programs, IDEA Consolidated, 21st Century, Homeless, Migrant, and Neglected & Delinquent. Sprint Two is made up of Perkins, Perkins Ed Tech, School Improvement Grant, Title III Immigrant, Tobacco, and V-SHEP. Tasks 4 – 7 as outlined in MTW's cost sheet regard the development and testing of these grant programs.

4. Does the State have a resource lined up to be the Project Manager (PM) on the project? If so, does this person possess the skills and experience to be successful in this role in your judgement? Please explain.

The State does not yet have a resource lined up to be the PM. The State identified this as a risk and it is recorded in the Risk Register as part of this report. The State has begun the hiring process. It posted a job on its website on June 22, 2017, and the job posting has closed as of July 9, 2017. The State indicated that it hopes to have this employee hired by the time the project kicks off. Additionally, the State does have resources that are familiar with the system from a technical standpoint and can step in as interim PMs should the need arise.

Additional Comments on Implementation Plan: None.

8.0 Cost Benefit Analysis

This section involves four tasks:

- 1) Perform an independent Cost Benefit Analysis. Information provided by the State may be used, but the reviewer must validate it for accuracy and completeness.
- 2) Provide a Lifecycle Cost Benefit Analysis spreadsheet as an Attachment 1 to this report. A sample format is provided at the end of this report template.
 - A. The cost component of the cost/benefit analysis will include all one-time acquisition costs, on-going operational costs (licensing, maintenance, refresh, etc.) plus internal costs of staffing and “other costs”. “Other costs” include the cost of personnel or contractors required for this solution, enhancements/upgrades planned for the lifecycle, consumables, costs associated with system interfaces, and any costs of upgrading the current environment to accept the proposed solution (new facilities, etc.).
 - B. The benefit side of the cost/benefit will include: 1. Intangible items for which an actual cost cannot be attributed. 2. Tangible savings/benefit such as actual savings in personnel, contractors, or operating expense associated with existing methods of accomplishing the work which will be performed by the proposed solution. Tangible benefits also include additional revenue which may result from the proposed solution.
 - C. The cost benefit analysis will be for the IT activity’s lifecycle.
 - D. The format will be a column spreadsheet with one column for each year in the lifecycle. The rows will contain the itemized costs with totals followed by the itemized benefits with totals.
 - E. Identify the source of funds (federal, state, one-time vs. ongoing). For example, implementation may be covered by federal dollars but operations will be paid by State funds.
- 3) Perform an analysis of the IT ABC form (Business Case/Cost Analysis) completed by the Business.
- 4) Respond to the questions/items listed below.

1. Analysis Description: Provide a narrative summary of the cost benefit analysis conducted. Be sure to indicate how the costs were independently validated.

To perform a cost benefit analysis, BerryDunn used the cost sheet provided by MTW in their cost spreadsheet to estimate the new solution’s cost. BerryDunn then added the State’s costs as were calculated in the Business Case, which—given the state resources used—were accurate. From these costs, BerryDunn added the additional 3% fee that ADS charges for oversight project management and enterprise architecture oversight, and added the cost of the IR, and the acquisition advisory services of Strategic Technology Solutions, Inc. Together, these costs made up the 10-year life cycle cost. A detailed breakdown of these costs can be found in Attachment 1.

The current operating costs are theoretical, as the State has to acquire a new solution by December 31, 2019. BerryDunn took the licensing costs, the DII costs, and the current staffing

costs (which are the same as the new costs) that are associated with the current solution and multiplied it by 10 years.

Despite the lack of implementation costs and using the same amount of State resources (the use and benefits of these resources will be discussed in the intangible benefits section), the projected operating costs for the new system (\$3,188,626.77) were \$100,863.23 less than the existing operating costs for Grantium (\$3,289,490.00).

2. Assumptions: List any assumptions made in your analysis.

- There is a 10-year life cycle.
- The same staff resources are used following the deployment of the solution as they are with the Grantium G3 solution.
- To achieve a fair comparison, Grantium G3 is given a 10-year life cycle despite the fact it has to be offline on December 31, 2019.
- State staff remain static, although raises, job pay rates, and change in delegation of duties cannot be reasonably projected, and are not included.

3. Funding: Provide the funding source(s). If multiple sources, indicate the percentage of each source for both Acquisition Costs and on-going Operational costs over the duration of the system/service lifecycle.

The funds for this project come from three sources, according to AOE. Implementation costs are 16% of the total project cost, and are funded entirely by Special State Funds. Maintenance, Operations, and Licensing make up the remainder of the total cost of the project (84%). All Maintenance, Operations, and Licensing costs come from the State General Fund, State Special Funds, and Federal Funding. The breakdown of the 84% is:

- 21% – State General Fund
- 20% – State Special Funds
- 43% – Federal Funding

The percent allocation of funding adds up to approximately 100%. (Due to the rounding the total funding, the percentage does not add up exactly to 100%.)

4. Tangible Costs & Benefits: Provide a list and description of the tangible costs and benefits of this project. Its “tangible” if it has a direct impact on implementation or operating costs (an increase = a tangible cost and a decrease = a tangible benefit). The cost of software licenses is an example of a tangible cost. Projected annual operating cost savings is an example of a tangible benefit.

Tangible Costs:

Overall, the total 10-year life cycle cost of the new solution is a projected \$3,188,626.77. If the State chose (and was able) to stay with the current solution, the projected 10-year

life cycle cost would be \$3,289,490.00. This represents a decrease of \$100,863.23 over the life cycle of the solution.

Implementation costs for the new solution are \$552,679.77 in the first year, which is a cost the State would not have to pay staying with the same solution.

Tangible Benefits:

Licensing costs will decrease with the new system. This will save the State an estimated \$29,957.00 a year, or \$299,570.00 over the 10-year lifetime of the solution. The State estimates an annual cost of \$107,957.00³ to license Grantium G3 each year for three years. Subscription costs for the preferred solution are \$78,000 annually.

The total cost of solution ownership is projected to be less with the preferred solution over 10 years than with Grantium G3 over the same time period. The total savings over the 10-year life cycle are projected to be \$230,090 in maintenance and operations. In the first year of the new solution, Maintenance and Operations costs are \$30,000. (Hosting in the first year is considered part of implementation.) In subsequent years, the cost increases to \$79,000.00 a year. The cost to host the current solution is \$97,109.00 annually, resulting in a projected savings of \$67,109.00 in the first year and \$18,109 in subsequent years.

5. Intangible Costs & Benefits: Provide a list and descriptions of the intangible costs and benefits. Its “intangible” if it has a positive or negative impact but is not cost related. Examples: Customer Service is expected to improve (intangible benefit) or Employee Morale is expected to decline (intangible cost).

The largest intangible benefit to the new solution is that the current solution will no longer be vendor supported as of December 31, 2019. The State would either have to support the program on its own, or continue using an unsupported solution.

AOE staff identified a number of issues with the current system that take up a large amount of their time. AOE reports that the current system requires State IT staff to create their own methods to perform key functions. Releases are also not provided to AOE with little prior testing and defect removal. AOE hopes that, with a new solution, IT staff can spend less time coping with deficiencies of the existing system and more time adding functionality (e.g., putting more grants online) or working on the implementation/support of other programs within AOE.

AOE staff report that, during the three-month grant application process, current staff spend an estimated 25 – 30 hours a week supporting applicants. AOE anticipates the new solution will reduce this time by 5 – 15 hours through embedded elements, such as those that answer frequently asked questions and provide worksheets for calculations. According to AOE staff, this will allow staff to spend more time performing grants-management and recipient-performance monitoring. This could reduce federal audits, which cost the State \$37,000 an audit, and will

³ The State contract with CDSC provides a cost of \$107,126 and also stipulates an additional cost for optional Business Intelligence Licenses. We have excluded any variance that may result).

likely reduce the amount of time staff spend performing audits, as information will be easier to access.

6. Costs vs. Benefits: Do the benefits of this project (consider both tangible and intangible) outweigh the costs in your opinion? Please elaborate on your response.

In our opinion, the benefits of this product outweigh the costs. The State must get a new program as support ends on December 31, 2019. There is a tangible benefit for the State through this program in savings of \$100,863.23 over a 10-year life cycle. There are also numerous intangible benefits associated with the proposed solution.

7. IT ABC Form Review: Review the IT ABC form (Business Case/Cost Analysis) created by the Business for this project. Is the information consistent with your independent review and analysis? If not, please describe. Is the lifecycle that was used appropriate for the technology being proposed? If not, please explain.

The Business Case review form is consistent with the findings of this IR in terms of current costs. The costs in the Business Case were prepared before vendor proposals were received, and thus the costs have changed. The actual proposed costs are lower than what the Business Case predicted.

The proposed life cycle seems reasonable. While the vendor only provided 8 years of costs in its proposals, it has clients who have been using the program for a longer than 8 or 10 years.

Additional Comments on the Cost Benefit Analysis:

9.0 Impact Analysis on Net Operating Costs

- 1.) Perform a lifecycle cost impact analysis on net operating costs for the agency carrying out the activity, minimally including the following:
 - a) Estimated future-state ongoing annual operating costs, and estimated lifecycle operating costs. Consider also if the project will yield additional revenue generation that may offset any increase in operating costs.
 - b) Current-state annual operating costs; assess total current costs over span of new IT activity lifecycle
 - c) Provide a breakdown of funding sources (federal, state, one-time vs. ongoing)
- 2.) Create a table to illustrate the net operating cost impact.
- 3.) Respond to the items below.

1. Insert a table to illustrate the Net Operating Cost Impact.

The life cycle cost analysis is included in the table on the next page. It includes both current and future state costs. The figures were obtained from our analysis of documents provided.

There is no tangible indication of projected revenue gain. Intangible or ad hoc benefits, such as fewer projected audits and overall improved grants management, lead AOE to believe that revenue will be enhanced rather than reduced, but such projections are speculative.

Estimated Net Impact on Operating Costs											
Impact on Operating Costs	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Year Totals
Personal Services (Non-Software Costs)											
Current Costs ¹	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$1,238,830
Projected Costs ¹	\$234,880	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$123,883	\$1,349,827
Software Acquisition, Maintenance, Support, and Licenses Costs											
Current Costs ²	\$205,066	\$205,066	\$205,066	\$205,066	\$205,066	\$205,066	\$205,066	\$205,066	\$205,066	\$205,066	\$2,050,660
Projected Costs ³	\$425,800	\$157,000	\$157,000	\$157,000	\$157,000	\$157,000	\$157,000	\$157,000	\$157,000	\$157,000	\$1,838,800
Baseline Current Cost	\$328,949	\$328,949	\$328,949	\$328,949	\$328,949	\$328,949	\$328,949	\$328,949	\$328,949	\$328,949	
Baseline Projected Costs	\$660,680	\$280,883	\$280,883	\$280,883	\$280,883	\$280,883	\$280,883	\$280,883	\$280,883	\$280,883	
Cumulative Current Costs	\$328,949	\$657,898	\$986,847	\$1,315,796	\$1,644,745	\$1,973,694	\$2,302,643	\$2,631,592	\$2,960,541	\$3,289,490	\$3,289,490

Estimated Net Impact on Operating Costs											
Impact on Operating Costs	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	10-Year Totals
Cumulative Projected Costs	\$660,680	\$941,563	\$1,222,446	\$1,503,329	\$1,784,212	\$2,065,095	\$2,345,978	\$2,626,861	\$2,907,744	\$3,188,627	\$3,188,627
Net Impact on Staffing	\$110,997	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$110,997
Net Impact on Other Operating Costs	\$220,734	-\$48,066	-\$48,066	-\$48,066	-\$48,066	-\$48,066	-\$48,066	-\$48,066	-\$48,066	-\$48,066	-\$211,860
Net Impact on Operating Costs:	\$331,731	-\$48,066	-\$100,863								

Sources and Assumptions (Please see Section 8.2 for additional assumptions used in the analysis of net impact on operating costs).

- 1 We assume this table compares current and projected costs to determine a net difference. Therefore, the projected costs for remaining the same are placed against projected costs for a new solution.
- 2 From Activity Business Case, Current System Costs
- 3 From Activity Business Case, Estimated Labor Costs
- 4 Costs provided in MTW's Cost Workbook, which was submitted as part of the proposal.

2. Provide a narrative summary of the analysis conducted and include a list of any assumptions.

AOE expects to have the same staff spend the same amount of time on the grants management program. While the State intends to continue assigning those staff to add improved grants management functionality via better software instead of keeping the program operational, the value of any additional functionality is intangible at this time. As a result, the staffing costs remain the same in Years 2 – 10. Those costs are from the Business Case, in which the hours spent on the project by those staff per year was multiplied by the State's labor costs. In the first year, staff hours are higher due to implementation. On the new solution, the first year staff costs are \$234,800.

We accept the operational costs identified by the State in the Business Case. However, operational costs, aside from annual software license costs, consist of personal services that are not 100% dedicated to the existing system. This includes two staff who are State employees and who would have other responsibilities if the existing grants system did not exist. Stated differently, it does not appear that they were hired to perform strictly a grants management duties. Therefore, it is debatable as to whether their salaries should be counted as operational costs. We have agreed to include their salaries from an IR standpoint because AOE reports that their salaries have been left in for the future state operational costs. As there is no net increase or decrease in their salaries, we find that to include them does no harm and skews no numbers.

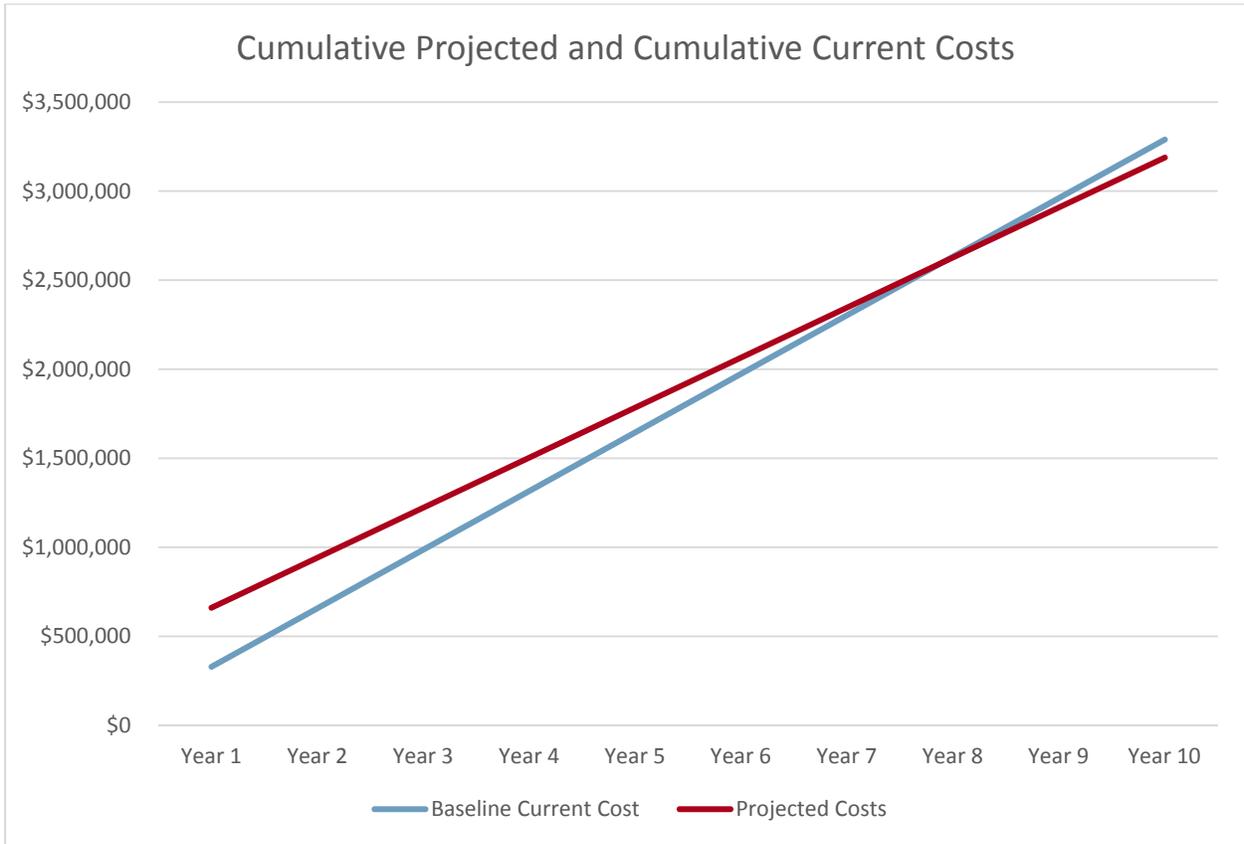
The State expects to pay less than what it is paying now for the new solution over a 10-year period. Software acquisition, maintenance, support, and licenses costs are \$428,880 in the first year and fall to \$157,000 over the following nine years. The current system costs are from the IT-ABC Workbook and include licensing costs as well as DII hosting costs. These costs total \$205,066 per year.

3. Explain any net operating increases that will be covered by federal funding. Will this funding cover the entire lifecycle? If not, please provide the breakouts by year.

There is no increase in operating costs over the 10-year life cycle.

4. What is the break-even point for this IT Activity (considering implementation and on-going operating costs)?

The projected break-even point for this activity is at the end Year 7.



10.0 Risk Assessment & Risk Register

Perform an independent risk assessment and complete a Risk Register. The assessment process will include performing the following activities:

A. Ask the independent review participants to provide a list of the risks that they have identified and their strategies for addressing those risks.

B. Independently validate the risk information provided by the State and/or vendor and assess their risk strategies.

C. Identify any additional risks.

D. Ask the Business to respond to your identified risks, as well as provide strategies to address them.

E. Assess the risks strategies provided by the Business for the additional risks you identified.

F. Document all this information in a Risk Register and label it Attachment 2. The Risk Register should include the following:

- Source of Risk: Project, Proposed Solution, Vendor or Other
- Risk Description: Provide a description of what the risk entails
- Risk ratings to indicate: Likelihood and probability of risk occurrence; Impact should risk occur; and Overall risk rating (high, medium or low priority)
- State's Planned Risk Strategy: Avoid, Mitigate, Transfer or Accept
- State's Planned Risk Response: Describe what the State plans to do (if anything) to address the risk
- Timing of Risk Response: Describe the planned timing for carrying out the risk response (e.g. prior to the start of the project, during the Planning Phase, prior to implementation, etc.)

1. Reviewer's Assessment of State's Planned Response: Indicate if the planned response is adequate/appropriate in your judgment and if not what would you recommend.

Additional Comments on Risks:

Please see the Risk Register in Section 12 of this report.

11.0 Attachment 1 – Life Cycle Cost Benefit Analysis

Independent Review of the AOE Grants management System											
Description	Initial Implementation	Maintenance									
Fiscal Year	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
Hardware Total	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Software											
Product License (1) (2)	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 780,000.00
Software Total	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 78,000.00	\$ 780,000.00
Consulting											
Deployment (3)	\$ 256,240.00										\$ 256,240.00
Consulting Total	\$ 256,240.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 256,240.00
Training											
Training Sessions delivered for AOE staff on Reviewing, Scoring, Workflow Security and Data Warehouse (4)	\$ 20,160.00										\$ 20,160.00
Training Delivered to Applications on Registering, Applying, Payments, Closeouts (4)	\$ 14,400.00										\$ 14,400.00

Independent Review of the AOE Grants management System											
Description	Initial Implementation	Maintenance									
Fiscal Year	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
Training Total	\$ 34,560.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34,560.00
Other											
Hosting (all environments) (5)	\$ 27,000.00	\$ 27,000.00	\$ 27,000.00	\$ 27,000.00	\$ 27,000.00	\$ 27,000.00	\$ 27,000.00	\$ 27,000.00	\$ 27,000.00	\$ 27,000.00	\$ 270,000.00
Disaster Recovery after full deployment (5)	-	-	-	-	-	-	-	-	-	-	
Annual SSAE-16 Testing - Portion of Cost (5)	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 80,000.00
Quarterly Penetration Testing - Portion of Cost (5)	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 4,000.00	\$ 40,000.00
Not To Exceed Support Requests (5)	\$ 18,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 40,000.00	\$ 378,000.00
Other Total	\$ 57,000.00	\$ 79,000.00	\$ 79,000.00	\$ 79,000.00	\$ 79,000.00	\$ 79,000.00	\$ 79,000.00	\$ 79,000.00	\$ 79,000.00	\$ 79,000.00	\$ 768,000.00
Personnel - Additional											
Technical Staff/State Labor for Project Management (6)	\$ 47,528.00										\$ 47,528.00
Other State Labor to Implement the Solution (7)	\$ 112,031.00										\$ 112,031.00
Independent Review (8)	\$ 21,000.00										\$ 21,000.00
Staffing costs (9)	\$ -	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 1,114,947.00
Strategic Technology Services, Inc. (10)	\$ 40,000.00										\$ 40,000.00

Independent Review of the AOE Grants management System											
Description	Initial Implementation	Maintenance									
Fiscal Year	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
3% Charge for ADS PMO/EA Services Project Implementation Costs: (11)	\$ 14,320.77										\$ 14,320.77
Personnel - Total	\$ 234,879.77	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 123,883.00	\$ 1,349,826.77
Total	\$ 660,679.77	\$ 280,883.00	\$ 280,883.00	\$ 280,883.00	\$ 280,883.00	\$ 280,883.00	\$ 280,883.00	\$ 280,883.00	\$ 280,883.00	\$ 280,883.00	\$ 3,188,626.77

References:

- 1: Product License cost comes from Tab 5: Licensing Costs of the Cost Sheet, provided by MTW as part of its proposal. Projections from the successful vendor were projected for only eight years.
- 2: As a Software as a Service (SaaS) solution, the State is actually subscribing, not purchasing, licenses.
- 3: Deployment cost comes from Tab 3: Implementation Costs, provided by MTW as part of its proposal. This cost does not include costs for training, which are broken down separately in the previous table.
- 4: Training costs are from Tab 3: Implementation Costs, provided by MTW as part of its proposal.
- 5: Costs come from Tab 4: Maint and Ops Cost, provided by MTW as part of its proposal.
- 6: Labor costs calculated as hours that State project management staff would spend associated with this project. From the IT_ABC_Form_GrantsManagement Workbook prepared and provided by Strategic Technology Services, Inc.
- 7: Labor costs calculated as hours that non-project management State staff would spend associated with this project. From the IT_ABC_Form_GrantsManagement Workbook prepared and provided by Strategic Technology Services, Inc.
- 8: Amount invoiced by BerryDunn for IR Services.
- 9: Labor costs calculated as hours that non-project management State staff would spend associated with the operations of this project. From the IT_ABC_Form_GrantsManagement Workbook prepared and provided by Strategic Technology Services, Inc.
- 10: Invoiced amount by Strategic Technology Services, Inc. during the procurement and contract negotiation processes.
- 11: 3% service charge is calculated as 3% of all implementation related expenses (deployment, training total, hosting costs in Year One, and State implementation costs).

12.0 Attachment 2 – Risk Register

Data Element	Description
Risk #	Sequential number assigned to each risk to be used when referring to the risk.
Risk Probability/Impact/Overall Rating	Two-value indicator of the potential impact of the risk if it were to occur, along with an indicator of the probability of the risk occurring. Assigned values are High, Medium, or Low.
Source of Risk	Source of the risk, which may be the Project, Proposed Solution, Vendor, or Other.
Risk Description	Brief narrative description of the identified risk.
State’s Planned Risk Strategy	Strategy the State plans to take to address the risk. Assigned values are Avoid, Mitigate, Transfer, or Accept.
State’s Planned Risk Response	Risk response the State plans to adopt based on discussions between State staff and BerryDunn reviewers.
Timing of Risk Response	Planned timing for carrying out the risk response, which may be Prior to Contract Execution or Subsequent to Contract Execution.
Reviewer’s Assessment of State’s Planned Response	Indication of whether or not BerryDunn reviewers feel the planned response is adequate and appropriate, and recommendations if not.

Risk #: R1	Risk Likelihood/Probability: Low	Risk Impact: High	Overall Risk Rating: Medium
Source of Risk: AOE			
Risk Description: There is a risk of project delay and unfulfilled obligations by the State due to an unfulfilled State PM position. If the State does not assign a PM, a key project role will go unfilled, causing project delays, among other things. The previously designated State PM retired in the spring of 2017. On June 28, 2017, the State posted an advertisement to replace this individual; the deadline for applications is July 9, 2017. The title of the position is Information Technology Project Manager IV.			
State’s Planned Risk Strategy: Accept			
State’s Planned Risk Response: AOE fully expects to have this position filled by the implementation start date, (anticipated to be 9/1/2017). AOE’s contingency plan is to have Frank Perricone assume that role until the position is filled, as Frank has done in an unofficial capacity since the previous State PM retired. During his 23 years of State service, Frank has served in this role on several other projects of similar or larger scope.			
Timing of Risk Response: Prior to Project Kickoff			

Reviewer’s Assessment of State’s Planned Response: The response is sufficient. We believe the Planned Risk Strategy should be “mitigate” rather than “accept”, but the mitigation is sound.

Risk #: R2	Risk Likelihood/Probability: Medium	Risk Impact: High	Overall Risk Rating: Medium
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Source of Risk: Vendor

Risk Description: There is a risk to project scope, schedule, and cost if the State and AOE do not agree upon a scope of data migration. The preferred vendor’s Assumptions within the Cost Workbook identify concern around the amount of data to be migrated over the course of the project. Specifically, requirements 201 and 202 require importation of legacy data from Grantium G3. The preferred vendor indicates that it is impossible to estimate scope of effort at this time.

Lack of clarity regarding what data the vendor needs to migrate could lead to the loss of data, an increase in costs, delays in schedule, or aspects of all three.

AOE stated in a June 28, 2017, meeting that data migration was not in the “purview” of the project, or is out of scope. The preferred vendor states that the 2018 – 2019 granting year will just be getting underway after the planned deployment of the GMS. The preferred vendor needs to know how much, if any, of unspent grant funds left under the 2017 – 2018 grant year must be moved to the new system. The scope of data migration should be reduced to writing and included in the contract.

State’s Planned Risk Strategy: Avoid

State’s Planned Risk Response: : During planning and RFP preparation, AOE wished to consider the possibility of migrating all Grantium data to the new system, and to invite vendors to offer their approaches, in case this opened up unexpected possibilities. However, AOE always expected that it was unlikely such a migration would be either feasible, or desirable, for any but a small amount of “low hanging fruit” data, such as applicant contact information. The majority of data in Grantium consists of grant applications in process, which would be inordinately difficult and expensive to migrate.

Fortunately, AOE does not need to migrate grants in process. The life cycle of a grant application has a known beginning and ending. All FY18 grants are being processed in Grantium, and will be completed through all review, award, and payment processing by late in calendar year 2018. This allows about a year for them to be reviewed or audited, and for records to be saved as needed, before Grantium’s support terminates on December 31, 2019. Meanwhile, all FY19 grants will originate in the new system and live out their lifecycle there.

While all of the vendor proposals offered willingness to attempt a migration of grants in progress, none made AOE reconsider this assessment of the best way forward. Allowing vendors to offer their approach also served to set a cost for migration services which could be placed in the resulting contract. AOE intends to document the proposed hourly cost for migration into the contract with MTW, while ensuring that it is at AOE’s sole discretion when and whether to use this service, which will probably only be for the “low hanging fruit” opportunities discussed earlier, as AOE originally foresaw during planning.

Timing of Risk Response: Prior to Contract Execution

Reviewer’s Assessment of State’s Planned Response: The response is adequate. We note that if AOE/ADS feels migration of historical data from Grantium is still an option in the future, then funds should be set aside in a contingency for this possibility.

Risk #: R3	Risk Likelihood/Probability: Low	Risk Impact: Medium	Overall Risk Rating: Medium
Source of Risk: BerryDunn			
<p>Risk Description: There is greater risk of financial loss to the State without a hedge on risk to a failed project, such as a performance bond, established milestone payments, or similar mechanism to recoup loss in the event of a failed project. The State has included standard retainage provisions, but without requiring the vendor to acquire a performance bond or some other method beyond retainage, the State takes the risk of lost funds (via payments to a vendor) if there is a project failure, contract cancellation, or failure on the vendor's part to perform the work described.</p> <p>Mechanisms to hedge against loss include milestone payments, a performance bond, and emphasizing payment around working software.</p>			
State's Planned Risk Strategy: Avoid			
<p>State's Planned Risk Response: The contract draft currently being developed contemplates one of the suggested mechanisms above, namely, milestone payments for specific deliverables. The table below is an initial draft of the deliverables at each phase. There is a place for dollars to be paid for said deliverables which are expected to be discussed/negotiated with the vendor during contract development. Further, definition of deliverables acceptance criteria is expected to occur prior to the initiation of each phase.</p>			
Timing of Risk Response: Prior to Contract Execution			
<p>Reviewer's Assessment of State's Planned Response: We accept the responses and encourage the State to structure the payment schedule such that a plurality of funds paid to the vendor are associated with working versions of the software.</p>			

Risk #: R4	Risk Likelihood/Probability: High	Risk Impact: High	Overall Risk Rating: High
Source of Risk: BerryDunn			
<p>Risk Description: There is a risk to project scope, schedule, and cost around lack of defined deliverables and payment milestones. The RFP did not define a full list of expected deliverables. The Cost Proposal Response is unclear on the schedule of payments, as the deliverables list is incomplete. Without a full set of defined deliverables, project scope is not fully defined. Project management minimum deliverables were defined in the RFP, and AOE has asked the preferred vendor to craft a list of deliverables and tie them to a project schedule, and, presumably, a payment schedule. While there is some logic in allowing a vendor to define deliverables, the lack of a defined set of deliverables could result in a gap between what the State expects and what the vendor plans to deliver. Payment and schedule should incentivize the vendor to provide working software and minimize payments for non-software related deliverables (such as project management deliverables). Emphasis should be placed on milestones, rather than payment on a deliverable-by-deliverable basis.</p> <p>The preferred vendor did offer a potential list of deliverables in their Cost Proposal Response, and they have been asked as of June 28, 2017, to tie a set of deliverables to a project plan. ADS and AOE will need to review the final list of contract deliverables prior to execution. The list may be composed of pre-</p>			

defined EPMO deliverables and those deliverables in the “Implementation Costs” tab of the preferred vendor’s Cost Response.

State’s Planned Risk Strategy: Mitigate

State’s Planned Risk Response: The RFP did in fact request a set of deliverables, namely a detailed set of functional and non-functional requirements to be delivered through this project. Further, the vendor did define a set of deliverables in their technical proposal, which aligns with the functional and non-functional requirements requested in the RFP. Additionally, as noted in the Risk Description above, the vendor did provide a detailed Microsoft Project plan, listing tasks and schedules, but which did not associate where in that plan, the deliverables would be produced, which is why we asked the vendor for that, and which we expect to include as a component of the contract.

Finally, as detailed in Risk #R3, we have developed a chart of deliverables by Phase, and expect to discuss/negotiate payment amounts with the vendor as part of contract development.

Timing of Risk Response: Prior to Contract Execution

Reviewer’s Assessment of State’s Planned Response: We do not agree that the RFP included a full set of deliverables; only minimum project management deliverables. Requirements provide scope, but are not a one to one tie with deliverables. Minimum deliverables outside of project management could include completed UAT, completed training, and deployment or software releases. We are satisfied that the list of deliverables and timeline and payment is being addressed by AOER and ADS.

Risk #: R5	Risk Likelihood/Probability: Low	Risk Impact: Medium	Overall Risk Rating: Medium
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Source of Risk: BerryDunn

Risk Description: There is a risk of contract execution delay due to ambiguity around the type of contract the State will agree to: a firm-fixed-price contract that is deliverables-based, or a time and materials contract. It is assumed that the State seeks a firm-fixed-price contract, and that specific deliverables are tied to that fixed price. (See Risk #4 for a related risk.) However, there is some ambiguity around whether the contract will be a firm-fixed-price contract or if there is some portion of the contract that will be based on time and materials. The following clauses of the RFP are in conflict: “All payments are to be based on the State’s acceptance of agreed to, fixed price deliverables or time and materials terms, as the case may be” (page 18), and “Remember: the proposal must be fixed cost, inclusive of expenses, for specific deliverables. The State generally doesn’t enter into time and material contracts” (page 26). This language should be resolved prior to contract execution.

All references to hours needed to complete deliverables should be removed from the contract if a deliverables-based contract is sought. The Implementation Costs tab in the preferred vendor’s Cost Workbook includes projected hours.

State’s Planned Risk Strategy: Mitigate

State’s Planned Risk Response: The ambiguity in the language noted on Pages 18 and 26 are part of AOE’s standard RFP template, which we used for this RFP, and which is based on State of Vermont Standard RFP.

Page 18 is Section 5.1 of the RFP template, which reads as follows:

“5.1 Invoicing

Risk #: R5	Risk Likelihood/Probability: Low	Risk Impact: Medium	Overall Risk Rating: Medium
<p><i>All invoices shall be rendered by a Contractor on the Contractor's standard billhead and forwarded to the State Project Manager. Details such as name and address will be determined during Contract negotiations. The bidder's proposal must clearly specify the address for submitting payments. All payments are to be based on State of Vermont's acceptance of agreed to, fixed price deliverables or time and materials terms, as the case may be."</i></p> <p>Page 26 is Section 8.1 of the RFP template, which reads as follows:</p> <p>"8.1 Costs of Preparation</p> <p><i>The Vendor shall be solely responsible for all expenses incurred in the preparation of a response to this RFP and shall be responsible for all expenses associated with any presentations or demonstrations associated with this request and/or any proposals made. Remember: the proposal must be fixed cost, inclusive of expenses, for specific deliverables. The State generally doesn't enter into time and material contracts."</i></p> <p>However, to the point, we expect this to be a fixed-price contract with dollars budgeted for time and materials activities as needed. As with all IT Projects, AOE fully expects there to be activities that are best fulfilled through a Time and Materials payment mechanism, such as Change Orders and the Data Migration activities noted in Risk #R1 above, the provision for which is expected to be incorporated into the contract on a not to exceed fee basis and explicit hourly rate.</p>			
<p>Timing of Risk Response: Prior to Contract Execution</p>			
<p>Reviewer's Assessment of State's Planned Response: We find that the language repeated above is cause for the State (not necessarily AOE or ADS) to reexamine its standard language, or reevaluate what standard language is used in each RFP. Section 5.1 allows for a time and materials contract, while section 8.1 disallows the possibility.</p> <p>It stands to reason that AOE/ADS would want a contingency in time and materials, or the addition of another fixed cost deliverable, for historical data migration from Grantium.</p>			

Risk #: R6	Risk Likelihood/Probability: High	Risk Impact: Low	Overall Risk Rating: Low
<p>Source of Risk: State</p>			
<p>Risk Description: The lack of a common definition of "enterprise architecture" means that the State cannot capitalize on solutions that advance its goal of utilizing software solutions across the state. There are different definitions of "enterprise architecture." Possible definitions include a single software platform, such as .NET; common software that can be used across agencies; or a common reporting platform, such as a data warehouse. Absent an agreed-upon definition, it is difficult to see how AOE or the State can fulfill their enterprise architecture requirements.</p> <p>AOE intends to move forward with the software vendor that best meets its needs, but due to the lack of clarity surrounding the definition of "enterprise architecture," it may not advance the State's vision of enterprise architecture.</p> <p>The IR document asks to what degree the proposed solution will "Apply enterprise architecture principles to drive digital transformation based on business needs." AOE acquired Grantium G3 in 2008 with the</p>			

Risk #: R6	Risk Likelihood/Probability: High	Risk Impact: Low	Overall Risk Rating: Low
<p>expectation that it would be the grants solution for the State. As of 2017, AOE is the only entity using Grantium G3. Without a State definition of “enterprise architecture,” the State may end up using solutions that do not fit within its stated goals.</p>			
<p>State’s Planned Risk Strategy: Accept</p>			
<p>State’s Planned Risk Response: AOE included in its evaluation, the Grants Management solution in use at Agency of Transportation and Agency of Commerce and Community Development in order to entertain one of the components of Enterprise architecture, namely “common software used across agencies”. While AOE did not select that solution, the selected solution does meet other Enterprise considerations, such as a standard database (Microsoft SQL) and standard technology framework (.NET).</p> <p>In the meantime, ADS has agreed that the selected solution does meet the Enterprise considerations currently in place and AOE may proceed with the selected vendor.</p> <p>Per Keith MacMartin: “As discussed, I think this was addressed with the CIO. In addition, there is no hard and fast requirement that the solution be re-usable by other departments. This is just one of many considerations from an enterprise architecture perspective, and the solution does fulfill other state EA principles, such as virtualization/cloud computing.”</p>			
<p>Timing of Risk Response: At Earliest ADS Opportunity</p>			
<p>Reviewer’s Assessment of State’s Planned Response: We accept the planned response but encourage the ADS to provide a more comprehensive definition of what “enterprise architecture” means. ADS should also consider modifying the IT-ABC document to require enterprise architecture evaluation or desirability/feasibility inquiry prior to solicitation. The form could include, for example, RFI results that report on the degree to which there are solutions that meet the State’s desired software platform or infrastructure. It could also include a requirement that agencies do a fit/gap analysis of existing State software systems. Performing this activity prior to RFP reduces the chance that a selected system does not meet enterprise architecture standards.</p>			

Risk #: R7	Risk Likelihood/Probability: High	Risk Impact: Low	Overall Risk Rating: Low
<p>Source of Risk: BerryDunn</p>			
<p>Risk Description: There is a risk that AOE has not fully vetted existing software contracts for managing grants within the State, resulting in a missed opportunity to rely on economies of scale and reduce costs to the State. The IT-ABC Business Case states, “The Agency of Education (AOE) has been using the Grantium G3 GMS since September 2008. Grantium G3 was since acquired by CSDC Systems in 2010. The G3 system was selected by the State by a governance committee search for an enterprise system that all State agencies could use. AOE was selected to pilot the solution and is the only Agency using the system.”</p> <p>AOE and ADS have conducted research into use of GMS at the Agency of Transportation and Agency of Commerce and Community Development. AOE concluded that the systems used by those agencies would not adequately fulfill their needs. AOE and ADS reportedly reached an agreement to proceed with</p>			

Risk #: R7	Risk Likelihood/Probability: High	Risk Impact: Low	Overall Risk Rating: Low
<p>the preferred vendor identified in this report following discussions this spring about the use of existing State grant software.</p>			
<p>We note that no formal analysis of the viability of Oracle's PeopleSoft grants module to fulfill AOE's grants management needs has been undertaken. The State's accounting system, VISION, is a PeopleSoft product. AOE reports that Oracle did not bid on the subject procurement and that PeopleSoft is on its last reported upgrade (version 9.2). However, the fact that existing statewide software with a grants management solution was not formally evaluated prior to this bid indicates that an investigation of all enterprise-level grants software options is not complete.</p>			
<p>State's Planned Risk Strategy: Accept</p>			
<p>State's Planned Risk Response: State of Vermont takes the position to not compel a vendor to bid on publicly posted bid opportunities, so AOE did not reach out to PeopleSoft, Oracle, or any other vendor, to request or suggest that they bid on the publicly posted Grants Management RFP. Further, AOE feels that bids received provide a broad and adequate cross-section of solutions within the Grants Management space, providing AOE a rich pool from which to select a solution. As noted above, the Enterprise solution conversations with ADS involved Grants Management solutions already in place within the State.</p> <p>Per Keith MacMartin: "I would reiterate that the Oracle solution, while potentially looking good on paper, would have required additional licensing & associated costs, additional integration work, and seemed very financials-focused. The solution used by ACCD/AOT was considered, but was judged to not be the best solution for AOE."</p>			
<p>Timing of Risk Response: At Earliest ADS Opportunity</p>			
<p>Reviewer's Assessment of State's Planned Response: We accept the response, but wish to clarify that we do not expect the State to compel any firm to bid. Rather, given the State's value of enterprise architecture capable solutions, we expected that the State would have done a formal inquiry of the level of fit of the PeopleSoft solution prior to making a decision to issue an RFP.</p>			

Risk #: R8	Risk Likelihood/Probability: Medium	Risk Impact: Medium to High	Overall Risk Rating: Medium to High
<p>Source of Risk: Vendor/State</p>			
<p>Risk Description: Unique AOE business processes could add time and complexity to software implementation, and thus to the project schedule. The preferred vendor identified the "consolidated cash request process" for school grant funding as a process unique to the State that will require consideration.</p> <p>According to the vendor, the State's method for reimbursing grant awardees is different from most other states. This could make the implementation process more complicated, and thus impact the schedule.</p>			
<p>State's Planned Risk Strategy: Accept</p>			
<p>State's Planned Risk Response: Vendor solution supports both "Reimbursement Request" model and "Scheduled Payments" model. AOE will consider changing their business process for payments to the "Reimbursement Request" model vs. the currently used "Scheduled Payments" process. However,</p>			

Risk #: R8	Risk Likelihood/Probability: Medium	Risk Impact: Medium to High	Overall Risk Rating: Medium to High
should AOE elect to continue using “Scheduled Payments” process, there is no risk as that functionality exists within the proposed solution.			
Timing of Risk Response: Prior to Contract Execution			
Reviewer’s Assessment of State’s Planned Response: We accept the planned response.			

Risk #: R9	Risk Likelihood/Probability: Medium	Risk Impact: Low	Overall Risk Rating: Low
Source of Risk: BerryDunn			
<p>Risk Description: A delay in project kickoff increases the risk that the State cannot use new grants management software in the 2018 grant cycle. Contract negotiation with the preferred vendor has been ongoing from March – April 2017. A number of items remain unresolved, including the IR, definition of deliverables, payment milestones, and Bulletin 3.5 review. The planned September 1, 2017, contract commencement date is at risk, and thus the project timeline is constrained with respect to the 2018 grant cycle.</p> <p>If the project is still incomplete by May 2018, the State will have to operate another year of grants management on Grantium G3, which goes out of support in December of 2019. Additionally, the State will have to wait another year to use the new system.</p> <p>Both the vendor and the State believe that the schedule has a sufficient lead on May 2018. (The project is due to have all grants online by mid-March 2018, and some grants will be online before that point.) The vendor believes that the schedule has sufficient room to accommodate some delay.</p>			
State’s Planned Risk Strategy: Accept			
<p>State’s Planned Risk Response: A small point of clarification in the risk: The risk states that Contract negotiation started in March-April 2017. Contract negotiation has not yet started, as AOE awaited ADS’ decision to allow AOE to pursue selected vendor vs. incumbent vendor. That decision occurred in June, 2017. Since June 2017, AOE has pursued a dual path of completing the Independent Review and developing a Contract draft. The Independent Review is due to be complete 7/28/2017. The contract, including definition of deliverables and payment milestones, is due to be complete by 7/28/2017, with the expectation to then also incorporate findings from the Independent Review. Regarding Bulletin 3.5, AOE worked with the AG’s office as the first step in contract draft development. As the selected vendor noted no exceptions to standard State terms in their bid response, AOE is confident that a contract will be in place to allow a 9/1/2017 start date.</p>			
Timing of Risk Response: As Soon As Possible			
<p>Reviewer’s Assessment of State’s Planned Response: While we accept the response, we feel that the AOE is optimistic in their expectations of the duration of Bulletin 3.5 review. The final IR report is now delayed a week (at least) beyond the original finalization date, and if contract negotiation has not started (we think that it has, given the dialog between AOE and MTW), then a month’s time to finalize agreements is likely optimistic given our prior experience. Our firm has also worked with the AG’s office</p>			

Risk #: R9	Risk Likelihood/Probability: Medium	Risk Impact: Low	Overall Risk Rating: Low
in prior contract developments and such a partnership does not substitute for a Bulletin 3.5 review nor remove the possibility of additional contract language changes.			

Risk #: R10	Risk Likelihood/Probability: Medium	Risk Impact: Medium	Overall Risk Rating: Medium
Source of Risk: State			
<p>Risk Description: The lack of a defined solution/hosting disaster recovery site delays the planned contract execution date. The vendor has yet to identify a disaster recovery site. More than one site is available, and factoring into the decision is distance of the disaster recovery site from the primary hosting facility in the Kansas City, MO, area.</p> <p>The vendor currently has a backup site farther away from its primary site than required, but still in the same region. The vendor is considering several sites in other regions of the country to serve as another disaster recovery site.</p> <p>Lack of agreement on the disaster recovery site may delay contract execution. The State has indicated that it wants a disaster recovery site operational prior to solution go-live.</p>			
State's Planned Risk Strategy: Accept			
State's Planned Risk Response: The primary data center site is in Lenexa, Kansas, with the DR site in Jefferson City, Missouri. The distance between these two sites is 150 miles. There is an additional DR site planned prior to contract execution in Sacramento, CA, which AOE will consider. However, the DR site in place meets AOE's requirements and State standard practice.			
Timing of Risk Response: Prior to Contract Execution			
Reviewer's Assessment of State's Planned Response: We accept the response.			

Risk #: R11	Risk Likelihood/Probability: Medium	Risk Impact: High	Overall Risk Rating: Medium to High
Source of Risk: BerryDunn			
<p>Risk Description: The possibility of an incomplete list of non-functional requirements needed for the contract may stall contract execution. The State was unable to confirm if there were additional non-functional requirements to which the preferred vendor would have to agree. The existence of these requirements, and the timing of their delivery, has the potential to delay contract negotiations, or at worst, cause the winning vendor to withdraw from the process.</p> <p>The State does not always include all line-item nonfunctional requirements in RFPs, and sometimes asks vendors to agree to them following selection, but prior to contract.</p>			
State's Planned Risk Strategy: Accept			

State’s Planned Risk Response: AOE included Non-Functional requirements (NFRs) in the RFP which are critical to AOE. Typically, ADS suggests additional NFRs for the business to consider, but does not force the business to adopt them.

Per Keith MacMartin: “This requires further review. The AOE team did a good job in adding many necessary NFRs to the RFP in narrative format, and I don’t anticipate having to add many additional NFRs. I will certainly work with AOE to make sure that I complete my review of this quickly and that any additional NFRs are added soon. My sense is that very few additional NFRs would be suggested, but I need more time to completely review this item.”

Timing of Risk Response: Prior to Contract Execution

Reviewer’s Assessment of State’s Planned Response: Additional NFRs will delay the execution of the contract and cause the preferred vendor to possibly revisit its cost. An RFP issued by the State, in our opinion, should include all requirements, both functional and non-functional.

Risk #: R12	Risk Likelihood/Probability: Low	Risk Impact: High	Overall Risk Rating: Medium
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Source of Risk: BerryDunn

Risk Description: The State faces the risk of a procurement challenge due to inconsistencies in scoring oral presentations/product demonstrations. BerryDunn identified some points of concern with the process.

- 1) The State did not have the same individuals score each of the oral presentations/product demonstrations.
- 2) A “fail” response to a single mandatory requirement by the preferred vendor was waived by the State, when the other two finalists answered that they could perform the requirement. The preferred vendor narrative response to the requirement indicated it could conduct some part of the requirement, which is presumably the justification for the waiver.
- 3) Because the two unsuccessful finalists only offered to put a fraction of the required 14 grants online, the State was unable provide an apples-to-apples cost comparison. Furthermore, the same two finalists were invited to oral presentations/product demonstrations while being unable to provide a solution that allowed the State to process all 14 grant types.

The existence of these procurement process issues could invite a challenge from an unsuccessful bidder.

State’s Planned Risk Strategy: Accept

State’s Planned Risk Response: The following addresses each of the concerns individually:

- 1) The State did not have the same individuals score each of the oral presentations/product demonstrations.
 - a. AOE created a core decision-making team, consisting of technical and program experts that represented all stakeholders in the GMS, which included Mary Mulloy, John Leu, Frank J. Perricone, Jennifer Gresham, Sean Cousino, and David Gadway. Vendor presentations were scheduled to ensure the core team could be present for all presentations; however, AOE also invited all other stakeholders to attend where schedules allowed, seeking to benefit from the diversity of perspectives when possible. These additional attendees each had a representative on the core team. We chose a scoring methodology that did not penalize vendors based on how many people were able to attend on the day of

Risk #: R12	Risk Likelihood/Probability: Low	Risk Impact: High	Overall Risk Rating: Medium	
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their presentation by using score averaging. We evaluated vendor presentation scoring both for all attendees and for the core decision-making team, and the resulting rankings are the same:

Vendor	All Attendee Results		Core Team Results	
	Total of Avg	Total/Number	Total of Avg	Total/Number
Agate	129.85	3.94	128.52	3.90
HTC	136.24	4.15	131.55	4.04
MTW	136.75	4.20	132.37	4.14

2) A “fail” response to a single mandatory requirement by the preferred vendor was waived by the State, when the other two finalists answered that they could perform the requirement. The preferred vendor narrative response to the requirement indicated it could conduct some part of the requirement, which is presumably the justification for the waiver.

a. During discussion with vendors while reviewing proposals, AOE determined that the question (which, to be clear, wasn’t a PASS/FAIL criterion as defined in the RFP, but a functional requirement) had been written ambiguously and MTW’s answer reflected that ambiguity. In fact, all three vendors could meet this requirement by the same method, which is the same as the one AOE currently uses in Grantium: the creation of a report that ‘exports’ the answers for all applications for a grant program, and which can be saved into Excel. MTW’s “no” answer reflected their interpretation of the question as referring to an export within a single application into the Excel format, similar to other questions which refer to exports to PDF format. This is not functionality that AOE needs, although in their comments, MTW made clear that while they don’t have an “export” button that supports Excel, they could accomplish this result through formatted copy/paste. AOE determined that the vendor could do what AOE required and scored the proposal accordingly, rather than penalizing the vendor for giving an honest answer to an ambiguously worded question.

3) Because the two unsuccessful finalists only offered to put a fraction of the required 14 grants online, the State was unable provide an apples-to-apples cost comparison. Furthermore, the same two finalists were invited to oral presentations/product demonstrations while being unable to provide a solution that allowed the State to process all 14 grant types.

a. Each vendor proposed what they felt was the most appropriate approach to completing all required Grants. The fact that other finalists did not propose to complete all 14 Grants within the required timeline was factored into the decision. AOE did develop an apples to apples price comparison per the Executive Summary provided to Berry Dunn as part of the IR.

Updated risk response from Office of Purchasing and Contracts dated 9/6/2017:

Brian Townsend, the Agency of Education Director of Digital Services, stated, “...the final ranking and selection was made solely on the basis of the scoring of the core team that attended all three demonstrations. Further, the team can and does attest that the scoring done by this core team was in accordance with the scoring metrics defined in the RFP.” The Office of Purchasing and Contracting stated, “If the contract is being awarded to the best qualified bidder [it is] completely with in our

Risk #: R12	Risk Likelihood/Probability: Low	Risk Impact: High	Overall Risk Rating: Medium
procurement guidelines. The Most qualified the bidder is the one [whose] score was highest using the scoring teams scoring metrics as defined in the RFP.”			
Timing of Risk Response: Prior to Contract Execution			
Reviewer’s Assessment of State’s Planned Response: We agree that the State should accept the risk. Beginning the procurement again is an unreasonable option, and BerryDunn feels that a structured and detailed methodology was followed in scoring proposals. However, and in our experience, some vendors, particularly unsuccessful ones, will challenge a procurement result if there are any inconsistencies in scoring approach and we find that some were present.			

Risk #: R13	Risk Likelihood/Probability: Medium	Risk Impact: Medium	Overall Risk Rating: Medium
Source of Risk: State			
Risk Description: No Request for Information (RFI) or peer state research with cost exists, creating a risk of solution overpayment. The State has little understanding of what other jurisdictions or customers paid for a similar solution. The State issued an RFI about four years ago. The results of the RFI have not been made available and the State has explained that cost was not requested information. The State may end up paying more for a product in the absence of peer state or market research.			
State’s Planned Risk Strategy: Accept			
State’s Planned Risk Response: Given the number of proposals received, AOE feels that they received a robust cross section of Grants Management solution proposals. Additionally, given the further apples to apples price comparison referenced in Risk #R12 above, AOE feels that the pricing provided by the selected vendor is in line with other proposals. Further, M&O costs are comparable to the solution currently in use, which also shows comparable pricing.			
Timing of Risk Response: Prior to Contract Execution			
Reviewer’s Assessment of State’s Planned Response: We agree with the response, but note that the IR asks, “How do the Acquisition Costs of the proposed solution compare to what others have paid for similar solutions? Will the State be paying more, less or about the same?” Such a question is fair, but should not be saved to be answered at the time of the IR nor have the IR contractor conduct the necessary research. Rather, it should be uncovered in the IT-ABC development as part of due diligence to determine project budget and planned costs.			